IN THE CLAIMS

1. (Original) An apparatus for the application of coatings in a vacuum, comprising at least one filtered arc source comprising at least one cathode contained within a cathode chamber,

at least one anode associated with the cathode for generating an arc discharge,

a plasma duct in communication with the cathode chamber and with a coating chamber containing a substrate holder for mounting at least one substrate to be coated, the substrate holder being positioned off of an optical axis of the cathode,

at least one deflecting conductor disposed adjacent to the plasma source and the plasma duct, for deflecting a plasma flow from the arc source into the plasma duct, and

at least one metal vapor or sputter deposition plasma source disposed in or near a path of the plasma flow, comprising a material to be evaporated.

2. (Original) The apparatus of claim 1 wherein the at least one metal vapor plasma source is disposed along an optical axis of the substrate holder.

3. (Original) The apparatus of claim 1 wherein the at least one metal vapor plasma source is coupled to the cathode or the anode and disposed off of an optical axis of the substrate holder.

4. (Original) The apparatus of claim 3 wherein the at least one metal vapor plasma source is surrounded by a shield which insulates the at least one metal vapor plasma source from the plasma flow, the shield having an opening to expose material to be evaporated to the plasma flow.

5. (Original) The apparatus of claim 1 comprising deflecting conductors disposed adjacent to upstream and downstream sides of the cathode, whereby a downstream flow of plasma is generated from the arc source and deflected toward the plasma duct and an upstream flow of plasma is generated from the arc source and deflected away from the plasma duct.

6. (Original) The apparatus of claim 5 wherein the evaporator is disposed between the upstream and downstream plasma flows.

7. (Original) The apparatus of claim 6 comprising an electron beam for evaporating the material.

8. (Original) The apparatus of claim 5 wherein the evaporator is disposed in the upstream plasma flow and the material evaporates under the influence of the plasma flow.

9. (Original) The apparatus of claim 1 wherein the at least one metal vapor plasma source is disposed in a substrate chamber with the substrate holder.

10. (Original) An apparatus for the application of coatings in a vacuum, comprising at least one filtered arc source comprising at least one cathode contained within a cathode chamber,

at least one anode associated with the cathode for generating an arc discharge,

a plasma duct in communication with the cathode chamber and with a coating chamber containing a substrate holder for mounting at least one substrate to be coated, the substrate holder being positioned off of an optical axis of the cathode,

at least one deflecting conductor disposed adjacent to the plasma source and the plasma duct, for deflecting a plasma flow from the arc source into the plasma duct,

at least one metal vapor or sputter deposition plasma source in communication with the plasma duct, the metal vapor or sputter deposition plasma source being positioned off of an optical axis of the cathode, and

at least one deflecting conductor disposed adjacent to the metal vapor plasma source and the plasma duct, for deflecting a plasma flow from the metal vapor plasma source into the plasma duct.

11. (Original) The apparatus of claim 10 wherein the at least one metal vapor plasma source is disposed in the coating chamber in opposition to the filtered arc source.

12. (Original) The apparatus of claim 11 comprising an electron beam for evaporating the material.

13. (Original) The apparatus of claim 10 wherein the metal vapor plasma source comprises a heated evaporated anode surrounded by a shield which insulates the metal vapor plasma source from the plasma flow, the shield having an opening to expose material to be evaporated to the plasma flow.

14. (Original) The apparatus of claim 10 wherein the metal vapor plasma source comprises a heated evaporated cathode.

15. (Original) The apparatus of claim 10 wherein the metal vapor plasma source comprises a heated evaporated anode.

16. (Original) The apparatus of claim 10 wherein the sputter deposition plasma source comprises a magnetron source.

17. (Original) The apparatus of claim 10 comprising focusing conductors disposed adjacent to the metal vapor plasma source and the plasma duct on upstream and downstream sides of the metal vapor plasma source, for focusing a plasma flow from the metal vapor plasma source to the plasma duct.

18. (Original) The apparatus of claim 17, wherein the metal vapor plasma source is disposed in a plane of symmetry between magnetic cusps of the focusing conductors.

19. (Original) The apparatus of claim 10 wherein impulse lasers are positioned to ignite an impulse vacuum arc discharge on a surface of the cathode.

20. (Original) The apparatus of claim 19 comprising a grounded deflecting anode and a repelling anode for directing an ion plasma stream toward the at least one substrate.

21. (Original) The apparatus of claim 20 wherein the cathode comprises a non-conductive evaporating material and a power supply is installed between the repelling anode and ground.

22. ~~21~~ (Currently Amended) A method of coating an article in a coating apparatus comprising at least one filtered arc source comprising at least one cathode contained within a cathode chamber, at least one anode associated with the cathode for generating an arc discharge, a plasma duct in communication with the cathode chamber and with a coating chamber containing a substrate holder for mounting at least one substrate to be coated, the substrate holder being positioned off of an optical axis of the cathode, at least one deflecting conductor disposed adjacent to the plasma source and the plasma duct, for deflecting a plasma flow from the arc source into the plasma duct, and at least one metal vapor or sputter deposition plasma source in communication with the plasma duct, the method comprising the steps of:

a. generating an arc between the cathodic arc source and the anode to create a plasma of cathodic evaporate,

b. evaporating or sputtering a material in the metal vapor plasma source or sputter

deposition plasma source to generate a metal vapor or sputter flux in the vicinity of the plasma flow, and

c. deflecting a flow of the plasma toward the substrate holder, whereby the flow of plasma mixes with the metal vapor or sputter flux prior to coating the at least one substrate.

23. ~~22~~ (Currently Amended) The method of claim 22 wherein the metal vapor plasma source or sputter deposition plasma source is disposed in or near the flow of plasma.

24. ~~23~~ (Currently Amended) The method of claim 22 wherein the metal vapor plasma source or sputter deposition plasma source is disposed remote from the flow of plasma and including after step b. the step of deflecting the metal vapor into the plasma duct.

25. ~~24~~ (Currently Amended) The method of claim 24 wherein the metal vapor plasma source or sputter deposition plasma source is disposed off of an optical axis of the substrate holder.

26. ~~25~~ (Currently Amended) The method of claim 25 including after step b. the step of focusing the metal vapor plasma or sputter plasma prior to deflecting the metal vapor plasma or sputter plasma into the plasma duct.